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EXAMINER

KOCH, GEORGE R

ART UNIT

PAPER NUMBER

1734

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/039,411

Applicant(s)

ESTELLE, PETER W.

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 10-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National-Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-9, drawn to an apparatus, classified in class 118, subclass 680.
  - II. Claims 10-24, drawn to a method, classified in class 427, subclass 8.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the method can be carried out by another and materially different apparatus using a gun and controller in which the gun moves relative to the substrate. Furthermore, the apparatus can perform a different method, such as one where the delays are maintained and the spray positions are modified.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with C. Richard Eby on 4-15-2003 a provisional election was made without traverse to prosecute the invention of group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1 and 6 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated Leary (US Patent 6,299,931).

Leary discloses an apparatus for monitoring the operation of a fluid dispensing gun (Figure 2A and 2B, item 130) that dispenses a pattern of fluid onto a substrate moving with respect to the dispensing gun, the dispensing gun changing operating states in response to transitions signals, and a sensor (item 135) disposed adjacent the substrate for providing feedback signals in response to detecting edges of fluid on the

substrate, the apparatus comprising a diagnostic monitor (item 122) responsive to transition signals and the feedback signals for automatically measuring delays between detecting occurrences of the transition signals and detecting corresponding edges of fluid on the substrate resulting from the transition signals (see especially Figure 7, which discloses sensing of the applied location, and comparing with the desired location, which is a signal as to the transition time. See also column 4, lines 56-64).

As to claim 6, Leary discloses the sensor as claimed (item 130).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leary (US Patent 6,299,931) and Medler (US Patent 4,957,782).

Leary discloses an apparatus for monitoring the operation of a fluid dispensing gun (Figure 2A and 2B, item 130) that dispenses a pattern of fluid onto a substrate moving with respect to the dispensing gun, the dispensing gun changing operating states in response to transitions signals, and a sensor (item 135) disposed adjacent the substrate for providing feedback signals in response to detecting edges of fluid on the substrate, the apparatus comprising a diagnostic monitor (item 122) responsive to the feedback signals for automatically measuring delays between detecting occurrences of the transition signals and detecting corresponding edges of fluid on the substrate resulting from the transition signals (see especially Figure 7, which discloses sensing of the applied location, and comparing with the desired location, which is a signal as to the transition time. See also column 4, lines 56-64).

Leary can be interpreted as not explicitly disclosing monitoring the transition signals. Leary correlates between an ideal transition signal and the edges of the fluid and compensates therein.

Medler discloses monitoring the transition signals (for example, see Figure 1, item FN' which is the actual switching or transition signal). Medler discloses that monitoring the actual transition signals compensates for chronologically varying response behaviors of the control elements (see column 2, lines 15-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the control elements and diagnostic substructures of Medler in order to improve compensation of the transition signals.

As to claim 2, both Leary and Medler disclose correlation of the representation of the transition signals to the representation of the feedback signal (see, for example, Leary, figure 7, and Medler, Figure 1). This operation is signal correlation, and thus, Leary and Medler disclose that the control element includes a signal correlation subelement.

As to claim 3, Leary as applied in claim 1 discloses identifying edges of the ideal transition signal and correlating with the feedback signals of sensor 135. Furthermore, Medler as applied in claim 1 above discloses identifying edges of the actual transition signals and discloses that doing so improves the compensation of the control system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the control elements and diagnostic substructures of Medler by correlation of actual transition signals with the feedback signals in order to improve compensation of the transition signals.

As to claim 4, both Leary and Medler disclose correlation of edges in transition signals or representations of transition signals with feedback signals or representations of feedback signals (for example, Leary, Figure 7, steps 530, 534 and 535, and Medler, columns 3 and 4). Furthermore, both Leary and Medler discloses receiving signals and thus inherently have input signal processors. Furthermore, Medler discloses that the signal calculations with regard to transition signals and feedback signals can operate either continuously or intermittently (column 4, lines 53-68). One in the art would appreciate periodic sampling, whether by intermittent or continuous operation, of the diagnostic system would enable that the system to stay within prescribed operating

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conditions, improving production efficiency. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized periodic sampling in order to ensure periodic correction of any control or apparatus timing drift.

As to claim 5, Medler discloses using an output processor for presenting the delays to the user, in the form of a display screen (column 4, lines 47-52). One in the art would appreciate that such a display screen would allow for operator correction and input. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a display screen in order to further ensure operator correction of any control or apparatus timing drift.

Claim 6 is rejected on similar grounds as claim 1 above. Leary further discloses the sensor claims (item 135)

11. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leary and Medler as applied to claims 1-6 above, and further in view of Popp (US Patent 5,683,752).

Leary and Medler as applied above discloses the apparatus for monitoring with a sensor and diagnostic monitor.

Leary discloses a gun (item 130), but is silent as to the presence of a pattern controller and a gun driver. One in the art would appreciate that Leary intends for any known pattern controller and gun driver to be utilized.

Popp discloses a gun driver (item 58) and a pattern controller (item 140 and 142) which receives instructions from the controller to provide transition signals representing



changes in operating state for the gun. One in the art would appreciate that such structures actuate the dispensing gun according to the dispense program desired.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the pattern controller and gun driver of Popp in order ensure proper operation of the gun.

As to claim 8, Popp as applied in claim 7 above discloses first transition signals (i.e., the signals sent from item 142 to item 58) and second transition signals (the signal sent from item 58 to item 50, the dispensing structure).

As to claim 9, Popp as applied to claim 7 above discloses that the transition signals are ON and OFF signals (see, for example, column 7, lines 56-63 - open is the same as ON, closed is the same as OFF).

### ***Double Patenting***

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1 and 6-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 09/999,058. Although the conflicting claims are not identical, they are not patentably distinct from each other because they utilize similar terms.

For example, claim 1 and 6 of the instant application claims an apparatus for monitoring an operation of a fluid dispensing gun, with a diagnostic monitor. Claim 1 and 2 of US 09/999,058 includes discloses utilizing a controller which institutes a "compensation" signal, which is described as adjustment of the gun switch signal in the specification. Claim 1 and 2 of US 09/999,058 also recite a sensor.

Claims 7 and 8 of the instant application are similar to claim 12 of US application 09/999,058.

Similarly, claim 9 of the instant application is similar to claim 14 of the US application 09/999,058 especially with regard to the "ON" and "OFF" signals.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 2-5 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 09/999,058 as applied above and further in view of Leary and Medler.

Claims 1-15 of US 09/999,058 do not disclose a signal correlator, or its further functions, or an output processor.

As to claim 2, both Leary and Medler disclose correlation of the representation of the transition signals to the representation of the feedback signal (see, for example, Leary, figure 7, and Medler, Figure 1). This operation is signal correlation, and thus, Leary and Medler disclose that the control element includes a signal correlation subelement. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention of US 09/999,058 to have utilized a signal correlator in order to process the signals and improve apparatus temporal compensation.

As to claim 3, Leary as applied in claim 1 discloses identifying edges of the ideal transition signal and correlating with the feedback signals of sensor 135. Furthermore, Medler as applied in claim 1 above discloses identifying edges of the actual transition signals and discloses that doing so improves the compensation of the control system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the control elements and diagnostic substructures of Leary Medler by correlation of actual transition signals with the feedback signals in order to improve compensation of the transition signals.

As to claim 4, both Leary and Medler disclose correlation of edges in transition signals or representations of transition signals with feedback signals or representations of feedback signals (for example, Leary, Figure 7, steps 530, 534 and 535, and Medler, columns 3 and 4). Furthermore, both Leary and Medler discloses receiving signals and thus inherently have input signal processors. Furthermore, Medler discloses that the signal calculations with regard to transition signals and feedback signals can operate either continuously or intermittently (column 4, lines 53-68). One in the art would

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appreciate periodic sampling, whether by intermittent or continuous operation, of the diagnostic system would enable that the system to stay within prescribed operating conditions, improving production efficiency. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized periodic sampling in order to ensure periodic correction of any control or apparatus timing drift.

As to claim 5, Medler discloses using an output processor for presenting the delays to the user, in the form of a display screen (column 4, lines 47-52). One in the art would appreciate that such a display screen would allow for operator correction and input. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a display screen in order to further ensure operator correction of any control or apparatus timing drift.

This is a provisional obviousness-type double patenting rejection.

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



George R. Koch III  
May 18, 2003



RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700